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NOTES ON SOME NOCTUIDÆ, WITH DESCRIPTIONS OF NEW GENERA AND SPECIES.

BY JOHN B. SMITH.

Cerma olivacea n. sp.—Ground color an olivaceous gray, with bluish green and white powderings. Head and thorax irregularly mottled, with a considerable admixture of black scales. Basal line distinct, black, followed by a white line. T. a. line black, preceded by a white line with long outward teeth on the subcostal and median veins, an incurve in submedian interspace, with another long tooth on the internal vein. T. p. line is irregular, rivulose, in general course a rather even outcurve. S. t. line indefinite, the space between t. p. line and outer margin being irregularly blotchy; an even dusky terminal line. Fringes pale, cut with fuscous. Claviform concolorous, defined by a black semicircle below the orbicular and a vague black powdering from the horns of this to the t. a. line. Orbicular moderate in size, round, concolorous, defined by a greenish annulus edged with black scales, and with a whitish central dot. Reniform large, somewhat constricted medially very incompletely defined in black, with greenish powderings which extend to the costal margin. Secondaries smoky fuscous, somewhat paler basally, with a small discal lunule and a faint extra median line. Beneath, primaries blackish powdery, paler along inner margin; secondaries whitish, with a dark discal lunule and a powdery outer margin. Expands 1.20—1.28 inches; 30—32 mm.

Hab.—Colorado; Sierra Nevada, Cal.

I have seen three specimens of this very distinct species, all males. Two are from Mr. Edwards, one of them rather rubbed, the third is from Mr. Bruce's collecting, sent several years ago to Mr. Cramer, now in collection United States National Museum. In this specimen the green has faded to the sordid yellow so commonly assumed by this color in the noctuids, but in maculation there is absolutely no difference. It is much larger than the eastern *C. cora*, and the details of maculation differ quite widely while the pattern remains similar. It is fully congeneric with our eastern species, without meaning to assert its distinctness from *Bryophila*.

Pachnobia cinerascens n. sp.—Pale luteous gray; sometimes with a slight reddish suffusion, sometimes quite well powdered with black scales. Head and thorax concolorous. Basal line distinct, rigid, single. T. a. line single, blackish, oblique, outwardly angulated below the costa, nearly straight through the cell, outcurved in the submedian and marginal interspace. T. p. line single, blackish, distinct, only a little outcurved over the cell, finely crenulated. S. t. line concolorous, marked by a defined blackish preceding shade, which fades into the ground color before the t. p. line. A broken brown terminal line, followed by a faint yellowish line at base of fringes. Claviform wanting; orbicular round

or oval, blackish, without defining line. Reniform large, upright, oblong, blackish, without distinct defining line. Secondaries smoky gray, uniform, with a fairly distinct yellowish line at base of fringes. Beneath gray, primaries varying to smoky brown, secondaries powdery. A common, variably complete outer line and a distinct large discal spot sometimes obscured on the primaries. Expands 1.20—1.40 inch.; 30—35 mm.

Hab.—Alameda County, Cal., September and October.

Four male specimens are in the museum collection (through C. V. Riley) bearing the red number 339.

This species is aberrant in color for the genus, but in wing form and in pattern of ornamentation it is allied to *carnea*. Its luteous gray color, single median lines, and contrasting black ordinary spots, render it easily recognizable. The antennæ are "brush like," *i.e.*, the joints slightly produced laterally and furnished with bristly tufts. The thoracic vestiture forms an indefinite dorsal crest. The male genitalia have the harpes oblique at tip, forming a little projecting tooth inferiorly. The clasper is a single, stout, straight, pointed, corneous spur.

Pachnobia elevata n. sp.—Ground color of the reddish gray usual in this genus. Head and thorax immaculate. Primaries with the ordinary lines single. Basal line interrupted, rather indefinite. T. a. line incomplete, apparently upright and rather even to internal vein, below which it makes an outcurve. T. p. line complete, even, exserted over the cell, and somewhat irregularly oblique below to margin. A paler, more grayish shade through the s. t. space, in which a series of interspaceal brown dashes indicate the s. t. line. An interrupted terminal line. Claviform a yellowish streak from base to near middle of median space, outlined beyond t. a. line by a narrow black line. Orbicular elongate, the angles drawn out toward base and apex. Reniform small, lunate. Both spots are a somewhat paler gray and outlined by black scales. Secondaries whitish, smoky toward apices. Beneath whitish, powdery, with a diffuse common outer line and a moderate discal spot on all wings. Expands 1.40 inches; 35 mm.

Hab.—Colorado (Bruce).

A single good male from Mr. Neumoegen's collection. The specimen has the antennæ serrate and bristled, and is therefore allied to *carnea*, than which it has somewhat more pointed wings and entirely different markings. The cell is not black-filled around the ordinary spots, and the character of the transverse lines is entirely different. The genitalia consist of a broad harpe with obtusely rounded tip, inwardly fringed with spinules. From the centre of this arises a broad, excavated, corneous process, with an irregular outline, forming the clasper.

Carneades fusimacula n. sp.—Head and thorax mouse-gray, collar with a blackish central line. Primaries dull red-brown, subcostal and median vein white powdered. Basal line geminate, well defined, included space with white powderings. T. a. line geminate, interrupted below costa, a long inward angle on cell, then evenly oblique outwardly to hind margin. Below the median vein the defining lines are well written, the included space concolorous. T. p. line even, outcurved over cell, thence parallel with outer margin. The inner defining line is a series of blackish lunules, the outer a vague, diffuse line, the included space very slightly paler than ground color. S. t. line marked only by the slight difference in shade between s. t. and terminal spaces; an interrupted, sublunate terminal black line, followed by a narrow yellow line at base of fringes. Apical spot powdered by a few white scales; a black basal dash below median vein, joining to the moderate, black margined claviform. A black filling to the cell before orbicular, and between the ordinary spots. The latter are fused, the orbicular oblong, oblique, merging inferiorly into the reniform, which is somewhat extended outwardly from its lower angle. The combined spot narrowly black ringed with a white interior line and a few white scales relieving the otherwise concolorous spots. Secondaries even, smoky fuscous, with paler, interlined fringes. Beneath smoky fuscous, powdery, with an incomplete outer line and somewhat indefinite discal lunule. Expands 1.28 inches; 32 mm.

Hab.—California.

A single male specimen in good condition. The characters of the *tessellata* group are well marked, and the species is intermediate between *divergens* and *redimicula*, differing amply from both in the fused ordinary spots. The white marked veins are like *divergens*, while the s. t. line is like *redimicula*. The male characters agree with those of the allied species, and figure 64 of my Revision of *Agrotis* will answer for this species equally well.

Perigea pulverulenta n. sp.—Ground color a vague, powdery reddish gray, varying in tint according to the relative predominance of red, white, or blackish scales. All the normal maculation present, but obscured by the powdery base. Basal line geminate, concolorous, defining lines fuscous or blackish, twice angulated. T. a. line somewhat paler, with fuscous or black defining lines, not always complete and sometimes vague: outwardly oblique, somewhat curved, inwardly angulate on the median and submedian veins. T. p. line solely geminate, the inner line lunulate, the outer vague and even, sometimes wanting, its course evenly bisinuate without the usual long outcurve from the costa over reniform. S. t. space paler than median and usually also than terminal space; s. t. line pale, diffuse, sinuate, marked by the difference in shade between s. t. and terminal space, and also by a more or less obvious preceding shade. Fringes interlined with fuscous, feebly scalloped; median space, as a whole, somewhat darker than the rest of the wing; a dusky or blackish median shade, which in the submedian interspace sometimes forms a complete connection between the median lines. Claviform small, though quite wide, concolorous, incompletely outlined in black. Orbicular round or oval, oblique, pale ringed with dusky centre. Reniform upright, quite large, somewhat constricted centrally, pale ringed with concolorous or paler center. A dusky costal patch in the s. t.

space and a paler apical patch in terminal space. Secondaries fuscous, with a broad black outer margin, a narrow preceding dusky line and a dusky discal lunule. Fringes pale, interlined with fuscous. Beneath powdery, primaries darker, both wings with a discal spot, narrow outer line and broad dark outer margin, all variable in distinctness. Expands 1.00–1.08 inches; 25–27 mm.

Hab.—Colorado (Bruce); Las Vegas, N. Mex. (Meeske); New Mexico (Snow); Arizona (Edwards).

This little species has long puzzled me, and I refer it to *Perigea*, rather because it is congeneric with *P. perplexa* Grt., than because it strictly belongs here.

Four of the specimens collected by Mr. Bruce are in the collection of the United States National Museum, two of them labeled simply "Colorado," the others labeled "Foot-hills." There is little or no variation, and the species once generically placed, is easily recognizable.

Polia pulverulenta n. sp.—Ground color a powdery ashen gray, the markings indefinite, vague. Basal line black, interrupted, apparently single. T. a. line single, black, rather diffuse, outwardly oblique and somewhat outcurved between the veins. T. p. line crenulate, outcurved over the cell and parallel with outer margin below that point, blackish, interrupted, almost lunulated, and nearly obsolete toward costa. This line is quite well removed toward margin, widening the median space and narrowing the space beyond to the outer margin. A series of somewhat diffuse interspaceal black marks indicates the s. t. line; a series of small terminal lunules. Fringes gray. Claviform vaguely indicated by a blackish shade. Ordinary spots vague, indefinite, concolorous, incompletely outlined, apparently of the usual shape and proportionate in size. An oblique, diffuse blackish shade from costa, outwardly over the reniform and darkening it inferiorly; continued as a vague fuscous shading through the median space. Secondaries dirty white, powdery, veins soiled, a dusky lunate marginal line and discal spot and extra discal line of under side showing through. Beneath whitish, powdery, with a common extra discal line and a discal spot on all wings. The hind angle of primaries is somewhat retracted; thorax with a small, divided anterior crest, and a more distinct posterior tuft; abdominal tufts small. Expands 1.88–2.08 inches; 47–52 mm.

Hab.—Colorado.

Two male specimens with serrate and tufted (brush-like) antenna. This species, though referred to *Polia*, probably cannot remain in this genus. It is referred there because it is quite close to and perfectly congeneric with *Polia contacta* Wlk., which it resembles both in size, color and general habitus, differing abundantly in many respects. The species bears a very decided resemblance to *Mamestra discalis*, and a specimen in the Museum collection (from the Meske collection) bears Mr. Grote's label, *Mamestra discalis*. The specimen

was collected by Snow, and I feel assured there are others of this species so misnamed. The other specimen was sent me by Mr. Bruce.

The genus *Polia* contains quite diverse material, and the species will probably be distributed among other genera, some mayhap to *Hadena*. Indeed, Mr. Grote has described the same species as a *Hadena* (*diversilineata*), and again as a *Polia* (*illepida*).

CALOPHASIA Steph.

Head not retracted. Thorax with fine, smooth vestiture. Abdomen without dorsal tufts. Antennæ of male with short, rather dense ciliæ, at base with a feeble tuft, thorax posteriorly with a truncate tuft. Primaries short, widening outwardly, more strongly rounded at internal angle, outer margin and fringes entire. The above characterization is from von Heinemann (Schmett. Deutsch. 391), and with it agrees fairly well a species which does not seem to fall in naturally with any American genus known to me. In wing form the species agrees well with *opalina*; in type of maculation it is more like *platyptera*, the latter being wider winged than its congener.

Calophasia strigata n. sp.—Head, thorax and primaries ash-gray. Head marked with fuscous, collar paler at base. Thorax with an admixture of fuscous scales. Primaries with a dusky shade through the cell and terminally, the transverse lines obsolete; the veins are all black marked, and the wing has, therefore, a strigate appearance. Claviform long, extending from the base to beyond the middle of the wing, with narrow black defining lines, filled with a reddish suffusion. A faint reddish tinge beyond the reniform, which is white ringed, narrow, upright, with an inferior spur projecting inwardly toward the orbicular. The latter is narrow, clavate, oblique, white ringed. On veins 3 and 4 the dusky terminal shade is cut by a white shade accompanying the veins; a row of small, dusky terminal lunules. Fringes cut with fuscous, and rather long. Secondaries whitish basally, soiled fuscous outwardly, the veins dusky. Beneath whitish, powdery. Expands 1.20 inches : 30 mm.

Hab.—Colorado (Bruce).

Two female specimens are before me, neither of them entirely perfect, but yet in excellent condition. The species has the appearance of *Oncocnemis* without its structure. One of the specimens is in the United States National Museum.

DRYOBOTA Lederer.

Eyes lashed. Tongue strong. Thorax arched, with distinct anterior lateral angles. Anterior femora not dilated, tibiæ unarmed. Of median size, head and thorax with short, coarse vestiture, the lat-

ter mostly flattened scales, collar not crested. The palpi with coarse vestiture and small terminal joint. Antennæ at base with a tuft of hair, serrated in the males, with bristle tuftings. The thorax quadrate, laterally produced at the angles, with smooth anterior and posterior tufts, abdomen untufted. Primaries short, not greatly widening, apices not acute, margin evenly rounded, fringes scalloped.

This is von Heinemann's definition, and it agrees well with the European species, but not at all with the American species referred to the genus. *Dryobata opina* Mr. Grote now refers to *Valeria*, while *stigmata* is utterly unlike the European species. The wing form is absolutely different, the fringes are only feebly sinuate and not scalloped, and the abdomen is prominently tufted; but I know at present no other genus to which *stigmata* could be better referred, and as I believe it has congeners in other genera I will simply call attention to the fact, here, preliminary to the description of three species agreeing better with the description of the genus, but very unlike *stigmata* in every respect, and, though themselves congeneric, and with the same habitus, differing quite strongly in antennal structure.

The species are ash-gray, with a reddish or brownish suffusion, powdery, all the maculation well marked. The ordinary spots are well sized, and as a whole the species have a very decided resemblance to *Litholomia napæ* in type of maculation, emphasized by the more or less prominent, rigid, dark, median shade or line, which forms the most obvious ornamental feature. One of the species which I had dubbed *Hadena latifascia*, perhaps in one or two collections, I find is Prof. French's *Homohadena elda*. It has nothing, whatever, in common with *Homohadena*, and this species is perhaps nearest of all to typical form of the genus.

***Dryobata elda* French.**

1887 Can. Ent. xix, 5, *Homohadena*.

The male antennæ are distinctly and well pectinated; in the female the joints are marked. A broad brown shade with blackish defining lines fills the space between the ordinary spots, and below the median vein its outer border extends along the t. p. line.

Four specimens in the National Museum collection (through C. V. Riley) are from Nevada County, Cal., September, collected by Koebele, and Mr. Edwards has also sent it to me labeled Sierra Nevada, Cal.

***Dryobata rectifascia* n. sp.**—Rather dark bluish ashen. Collar with a broad median black line. Basal half line distinct, pale, obsoletely geminate; a short, black, longitudinal basal line extending to the half line, the inclosed costal

space paler and with a brick-red tinge. T. a. line upright, or a little outwardly oblique, geminate, outer defining line usually very distinct and touching the orbicular in its course. T. p. line geminate, inner line darker, included space paler; in course it is very even, widely outcurved over the reniform, altogether what might be termed S-shaped, with most of lower extension lopped off. The s. t. space is pale, except costally, darkening to form a continuous dusky shade before the s. t. line, which is pale and irregularly sinuate. There is an admixture of reddish scales in this preceding shade which is most obvious at anal angle. A prominent, rigid black line from the costa, forming the inner margin of reniform and continued thence to the hind margin at t. p. line. Claviform small, indefinite, marked only by a vague brick-red shade. Reniform large, kidney-shaped, suffused with brick-red: a black line at base of fringes, which have a dusky interline. Secondaries soiled white, veins and terminal line dusky. Beneath whitish powdery, with a more or less complete outer line and discal spot. Expands 1.24—1.40 inches; 31—35 mm.

Hab.—Sierra Nevada, Cal. (Edwards).

The antennæ of the male have the joints but feebly marked and ciliated, not at all serrate, much less pectinated. The transverse median line corresponds to the outer defining line of the median shade in *elda*, but is more prominent. The differences in details need not be pointed out where structural characters declare the species different.

An incomplete specimen is in the United States National Museum; the wings and antennæ are, however, perfect, and the specimen is one of my types.

Dryobota curvifascia n. sp.—Ashen-gray or darker, with or without an admixture of brick-red scales, the black maculation consisting generally of elevated scales, giving the species a rough or "squammose" appearance. Collar inferiorly pale, a vague reddish median line, surmounted by an equally vague blackish one. Primaries, basal line geminate, blackish, vague, reaching to the short black basal dash, along which a brick-red shade is more or less marked. T. a. line geminate, incomplete, outwardly oblique and slightly curved between the veins. T. p. line vague, scarcely definable, obsoletely geminate, evenly outcurved over cell, and incurved beneath. The s. t. space is outwardly a little paler, a partial series of black or blackish lunules, becoming more distinct toward inner margin; an admixture of reddish in these lunules also increases toward anal angle. Terminal space dusky; a blackish terminal line and a narrow pale line at base of fringes. Claviform apparently obsolete. Orbicular oblong, oblique, concolorous, with a narrow black margin and a very narrow white annulus. Reniform narrow, quite long, lunate, shot with reddish, defined by black and white scales rather than lines. A dusky median shade, feebly bisinuate, touching neither of the spots and reaching margin between the ordinary lines. Secondaries soiled white or smoky, with a blackish terminal line. Beneath powdery, pale, with a variably distinct discal spot and outer line. Expands 1.12—1.20 inches; 28—30 mm.

Hab.—Sierra Nevada, Cal. (Edwards), September; Placer County, Cal., through C. V. Riley.

The Placer County specimen in the United States National Museum is the smallest of the three, and is also most obscurely marked. It lacks the brick-red shades altogether, the gray is more sordid and even, and the maculation is less definite than in the other specimens.

The male antennæ are rather lengthily serrated, almost pectinated, differing from both the preceding species in this character as well as in the median shade, which is here not at all prominent, narrow and sinuate, not touching either of the ordinary spots nor the t. p. line.

Apamea lunata n. sp.—Ground color a powdery reddish ocher. Head and thorax immaculate. Primaries with basal line apparently wanting. T. a. line narrow, whitish, evenly outcurved. T. p. narrow, whitish, even, but little outcurved over cell and rigidly oblique below. S. t. line marked by a preceding costal shade and a series of interspaceal black dots; a brown line at base of fringes. Claviform and orbicular obsolete. Reniform a narrow white lunule, margined by black scales at the end of the cell. The veins, through the median space, are more or less evidently black powdered. Secondaries very pale copy, somewhat more dusky outwardly. Beneath pale, with reddish powderings. Expands 1.04—1.12 inches; 26—28 mm.

Hab.—Alameda, Cal., in June; Mt. Shasta District, Cal. (Edwards).

Both sexes are before me. The species is allied to *purpuripennis* Grt., but the ground color is entirely different, and there is not the least chance of confusing the species. The male antennæ are laterally tufted with short bristly hair, but not serrate.

Orthosia disticha Morr. has hairy eyes, and is an *Ulolonche* Smith. It comes close to *U. fasciata* in type of maculation as well as wing form; but besides the difference in color the contrasts are nowhere as defined, and the reniform is not discolorous, though it is well defined and of the same form.

The male genitalia agree perfectly in type with the species which I have already included in this genus (*modesta*, *fasciata*, *niveiguttata*).

This seems to be one of the cases where the sexual structure is of generic, rather than specific importance, the agreement being close in type and in details, while the ornamental characters are widely variant.

Telesilla carneola n. sp.—Head and thorax a carneous or vinous gray, powdery, apparently without distinctive ornamentation, but the specimen is imperfect in this respect. Primaries with a fine vinous red ground color, more or less evidently gray powdered, median space with a deep, blackish brown shading. Terminal space deep umber-brown. Basal line very indistinct, narrow, composed of whitish atoms. T. a. line narrow, thread like, powdery, gray, slightly outcurved. T. p. line vague, powdery, defined rather by the difference

in shade between the median and subterminal space, and by short black lines on the veins, followed by minute white dots; a whitish powdering through the s. t. space, which becomes darker outwardly, shading into the deep brown terminal space. S. t. line very indistinct, broken, barely traceable, its course irregular. Fringes dark, with a grayish central line. Orbicular small, round, concolorous outlined in pale gray. Reniform slightly constricted medially, concolorous, outlined by a narrow gray line. Secondaries yellow fuscous at base, becoming smoky outwardly, a pale line at base of fringes. Beneath brown, powdery, with a median line and vague discal spot on primaries. Secondaries pale basally, a broad dark extra median line and a small discal dot. Expands 1 inch; 25 mm.

Hab.—Las Vegas, N. Mex. (H. Meeske).

A single specimen from Mr. Neumoegen's collection, taken by Mr. Meeske in 1889.

Compared with the eastern *cinereola*, the present species is stouter in body, with narrower wings. The general scheme of maculation is identical, but the contrasts are much greater. While there is an evident resemblance there can be no danger of confusion with the eastern form.

Dr. Harvey's *navia* has a tuberculated front and armed fore tibiae, and belongs, therefore, with the Stiriinae. It may be best referred to *Stibadium* for the present.

As Mr. Grote has recently avowed his responsibility for Dr. Harvey's species, the failure to see the obvious structural characters separating this species generically from *cinereola*, is chargeable to the former.

***Plusia angulidens* n. sp.**—Head, thorax and primaries bluish gray in ground color, with fuscous powderings. Collar with a median and subterminal fuscous line, and the patagiae have also two rather diffuse transverse lines. Thoracic tuft brown, basal abdominal tuft almost black, but with a white margin. Primaries with the basal line distinct, black, geminate, inwardly oblique from the costa. T. a. line inwardly oblique, with three feeble outcurves, outer line black, inner vague, and marked on the costa principally, though also traceable below internal vein; the line is interrupted on the median vein, where, at the origin of vein 2, the greenish silver u is attached, much as in *ov.* A very small silver dot follows, but is completely and even widely separated. The median space is vaguely and irregularly fuscous shaded. T. p. line oblique, almost parallel with the outer margin, irregularly and feebly angulate outwardly; the line is whitish centered, the geminate defining lines fuscous. S. t. line prominent, black, irregularly and widely angulated and dentate, shading off by a fuscous tinge into the s. t. space, but sharply contrasted against the bluish gray terminal space. This character forms the most obvious feature in the ornamentation. A fuscous shading near outer margin, forming irregular patches subapically. Fringes gray, cut with fuscous. Orbicular a very vague, oval, oblique spot. Reniform narrow, upright concolorous, very imperfectly defined by narrow black lines. Secondaries yellowish fuscous basally, with a broad smoky brown outer

margin. Fringes white, cut with fuscous. Beneath, both wings yellowish, powdery, with whitish fringes, cut with black, with a broad, vague, outer line and equally vague discal spot. Expands 1.36 inches; 34 mm.

Hab.—Colorado (Bruce).

The species is allied to *P. viridisignatu* Grt., or yet more closely to *celsa* Edw., of the latter of which Mr. Neumoegen has the type. It differs from both in the greater prominence and angulation of the s. t. line, and from the latter in the less distinct transverse maculation, and the want of the black shadings described by Mr. Edwards. The underside of the new species does not agree at all with what that of *celsa*, next to which, however, it must probably stand. Several specimens were taken by Mr. Bruce, who has also taken *P. snowi* in some numbers.

Cirrhophanes duplicatus n. sp.—Ground color pale ocher yellow, with the maculation deeper, orange yellow. Head and thorax immaculate, the thoracic tuftings orange tipped. Primaries with a coppery flush over costal region to middle of wing, and in discal cell. Ordinary lines single. Basal line barely visible. T. a. line widely angulated on subcostal vein, in submedian interspace, and again to the hind margin. T. p. line even or very feebly lunate, widely outcurved over cell, then very obliquely inward to the middle of the hind margin. S. t. line very distinct, broader than the others, even, parallel with outer margin. A rich orange line at base of fringes. A somewhat deeper shading through the terminal space. All the veins orange marked. Ordinary spots obsolete. Secondaries ocherous, paler at base, and with an orange terminal line. Beneath, primaries reddish ocherous, secondaries pale, powdery. Expands 1.16 inches; 29 mm.

Hab.—Platte Canon, Col., 6500 feet.

This species, collected by Mr. Bruce, is before me in one female specimen only. It is somewhat smaller than *triangulifer*, and lacks altogether the rich tinting of that species. In maculation the two are very much alike. The frontal protuberance of the new species consists of a simple nipple-like dilation, differing quite strongly from *triangulifer*, and the fore tibiae seem unarmed. The specimen is imperfect in leg structure—most of the legs wanting—and the claw may have been broken off. In thoracic tufting, wing form and general habitus, this species is the close ally of its congener.

The specimen is in the United States National Museum.

Orrhodia californica n. sp.—Head, thorax and primaries a deep, rather sordid luteous brown, with close, black powderings beyond the t. p. line, darkening the primaries terminally. Head and thorax immaculate. Basal line scarcely traceable. T. a. line geminate, defining lines a series of black scales, included space pale; in course the line is outwardly oblique and outcurved between the veins. T. p. line geminate, pale, the defining lines blackish, very

even, its general course bisinuate, outcurved over, incurved below the cell. Through the dusky outer portion of the wing the veins are pale, and the irregular, indefinite concolorous s. t. line is rather indistinctly traceable. A row of black terminal lunules. Fringes with a pale line at base. Claviform vaguely indicated by fuscous brown scales. Orbicular upright oblong, pale ringed and dusky powdered; reniform large, slightly constricted centrally, pale ringed and black powdered. Secondaries even, fuscous brown. Beneath fawn gray, powdery; secondaries paler basally; both wings with an outer line and dusky discal lunule. Expands 1.36 inches; 34 mm.

Hab.—Sierra Nevada, Cal.

A single male from Mr. Edwards' collection with "brush-like" antennæ. In habitus and appearance this species resembles a *Tæniocampa*, but the eyes are naked and strongly lashed. It is congeneric with the European *O. silene*, and seems distinct from our species of *Gleæ* and allies.

In introducing the term *Orrhodia* into our fauna I do it not to replace any term now in use, but because it seems as though it really refers to a type different from the others heretofore noted. The European species seem very unlike each other and may not be held together. On the other hand additional material of the species before me may indicate another genus. The type is perfect, except that one antenna is missing.

PLEROMA n. gen.

Eyes naked, with long hairy lashes. Head retracted, moderate in size, with divergent hairy vestiture, palpi short, scarcely exceeding the frontal vestiture, divergently clothed. Tongue moderate, spiral. Thorax quadrate, heavy, vestiture long, somewhat flattened hair; collar somewhat produced in front, forming a central crest; an indefinite loose posterior tuft. Breast densely clothed with long woolly hair. Legs unarmed, short, stout, with dense, long woolly hair on femora and tibiæ. Abdomen with dorsal tuftings, short, stout, conic in the female and scarcely exceeding hind angles of the secondaries in either sex. Antennæ simple in both sexes. Primaries trigonate, comparatively short and broad, with produced apices and a very oblique, evenly curved outer margin, joining with the inner margin at a very obtusely rounded angle. Secondaries proportionate, fringes long.

I could not satisfactorily refer the species with the above combination of characters to any of the described genera. It is evidently related to *Xylina* without the depressed form and narrow wings,

while the type of ornamentation is different from any other species of this series which is known to me, approaching that of *Cucullia*.

P. obliquata n. sp.—Bluish ash-gray, varying in depth of tint from whitish to very deep, almost blackish. Collar with a central white line between two black lines, which in a pale specimen is reduced to a central black line and a fuscous upper line. Thorax with black hair intermixed, but forming no distinct ornamentation. Primaries with all the veins black marked. T. a. line single, quite broad, outcurved, but distinct only into the submedian interspace and not attaining the inner margin. T. p. line single, fuscous to black, almost parallel with outer margin, followed by a narrow pale shade. An oblique, broad, dusky shade, sometimes broken up into spots from the apex to the hind margin near the t. p. line. S. t. line vague, broken, in pale specimens marked only by preceding black interspaceal marks. A dusky line at base of fringes, which alternate in two very slightly different shades of gray and have a pale central line. The ordinary spots are wanting, only the reniform being vaguely indicated by a dusky shade, more evident in pale specimens. Secondaries pale fuscous to smoky brown, with darker veins and a dusky discal spot. Fringes pale, with a dusky interline. Beneath, primaries blackish or smoky, white powdered outwardly; secondaries paler, more powdery, with an outer dark line and dusky discal spot. Expands 1.28–1.32 inches; 32–33 mm.

Hab.—Sierra Nevada, Cal.; Colorado.

Both sexes are before me, the California specimen from Mr. Edwards, the others collected by Mr. Bruce. The California specimen is a much paler gray and the maculation is more distinct, but there does not seem to be any other difference, and I can scarcely think them distinct. I consider the Colorado specimens represented in the National Museum collection typical of the species and the Californian as a race.

ANORTHODES n. gen.

Eyes naked, large, globose, scarcely prominent. Head moderate, frontal vestiture scaly, projecting, but forming a smoothly rounded surface. No frontal modification. Tongue moderate, corneous; palpi stout, normally noctuidous in form, reaching to the middle of front in the male, a little shorter in the female. Antennæ simple in both sexes, finely ciliated laterally. Thorax small, convex, vestiture flattened hair and scales, smooth, forming no tuftings. Abdomen smoothly scaled, untufted. Legs stout, with rather thick scaly vestiture, tibiae not spinose, anterior unarmed. The primaries are large, broad, with arched costa and rounded apices and outer margin. The inner margin is nearly as long as the costa. Secondaries proportionate.

This genus has a very decided habital resemblance to *Orthodes*, but differs at once by the naked eyes. The species upon which the genus is based has been known to me for several years. It is in the collection of the United States National Museum, taken as far back as 1882, and I have received it for name several times. I have tried to identify it with all genera or species to which it could have been reasonably referred, but cannot find any description to cover it, nor do I find it named in any collection thus far examined. It may be confused under *Orthodes cynica*, to which it bears some resemblance. I have named the form.

Anorthodes prima n. sp.—General color a soft, even mouse gray. Head and thorax immaculate. Primaries with all the lines evident, the basal, t. a. and t. p. single, fine, blackish, the s. t. broader, pale. Basal line nearly straight. T. a. line with a decided inward angle on the cell, irregularly oblique below. T. p. line outcurved over cell, somewhat incurved below; it is even or slightly crenulated. S. t. line yellowish, irregular, as a whole closely parallel to the outer margin. A vague blackish median shade line, often diffuse, obtusely angulate on the reniform, quite rigid below to the hind margin. Claviform wanting. Orbicular punctiform blackish. Reniform an indefinite blackish lunule, sometimes not distinct, marked with a few whitish scales. A very faint, yellowish terminal line. Secondaries very faint smoky gray, shining. A vague discal lunule and a very distinct yellow line at the base of the somewhat paler fringes. Beneath, glistening gray, powdery, somewhat darker on primaries, both wings with a variably complete and distinct outer line and discal lunule. Expands 1.12–1.20 inches. 28–30 mm.

Hab.—Archer, Fla., May 24th; Washington, D. C., May 15th, September 2d and 12th (U. S. Nat. Mus.); Columbus, O. (Tallant).

Under the number 3503, bred specimens are in the biological collection (coll. C. V. R.) and the life-history has been made out.

There should be no difficulty in recognizing this species by the soft color and single, fine median lines. The harpes are broad, up-curved at tip, a small corneous process at inferior angle, where also the surface is set with acute teeth; a stouter and longer corneous spur from below the middle of the harpe inclined upward and inward, or exactly opposite the other spur.

Trichoclea postica n. sp.—Pale, somewhat creamy white, with a faint luteous admixture, powdery. Primaries with all the maculation faintly written, blackish. Basal line marked on costa by a geminate black spot, and again faintly below the median vein. T. a. line upright, geminate on costa only, lunulate, preceded by a variably obvious pale shade. T. p. line also marked by costal dots, thence single, crenulated, outcurved over reniform, rather evenly oblique, or with but a slight incurve below. This line is also accompanied by a somewhat paler shade, and a series of pale venular dots outwardly. S. t. line marked on

costa, but very vaguely below, becoming in one case scarcely traceable, in the other fairly defined by a dusky preceding shade. A series of blackish terminal lunules. Claviform small, imperfectly outlined, concolorous. Orbicular wanting, or but faintly indicated, then oval, rather small. Reniform large, upright, kidney-shaped, laterally only defined, with a central fuscous lunule, which expands somewhat inferiorly. A vague median shade through the outer part of median space. Secondaries in the male white, veins fuscous marked; a narrow dusky outer margin; a distinct discal lunule. Secondaries in the female dusky, smoky brown, somewhat paler basally, fringes white. Beneath white, powdery, with a variably distinct crenulate outer line and discal spot. Expands 1.40 inches; 35 mm.

Hab.—Denver, Col. (Bruce).

Male and female are before me, the former from the coll. U. S. Nat. Museum (two specimens), the latter from Mr. Neumoegen. The frontal protuberance is quite prominent, the armature of the fore tarsi much as in *decepta* rather than *edwardsii*. The male genitalia are similar to those of the other species, and best described by a reference to figure 5 on Pl. II, with which should be compared also Pl. XXII, figs. 18 and 19, Proc. U. S. Nat. Mus. vol. xii.

***Trichoclea antica* n. sp.**

Every word of the description of *postica* will apply as well to this species, save that the secondaries of the male are less soiled, more purely white, and in the female the secondaries are like those of the male *postica*; otherwise the maculation is the same, and I should have considered the specimens identical, but for the fact that the frontal protuberance is much smaller, less prominent, the tarsal armature weaker even than in *edwardsii*, and finally the male structures differ quite strongly, first in absolute size, those of the present species being fully one-third larger from the same sized male and also in the arrangement of the corneous claspers, which differs from all of the other species, and is figured on Pl. II, fig. 4. Expanse as in *postica*.

Hab.—Los Angeles County, Cal., April 10th; good specimens are in the National Museum collection (through C. V. Riley).

***Taeniocampa orobia* Harv.**

This insect I could not find in the Meske collection, from which it was described, when I wrote my Revision (Proc. U. S. Nat. Mus. xii, 455–496, 1889). The completed incorporation of the collection into the regular museum series has brought to light the typical Texas specimen, and it turns out to be exactly like specimens of *oviduca*,

to which it must be cited as a synonym. Mr. Grote claims credit for Dr. Harvey's descriptions, and he must be charged with this synonym.

T. pacifica Harv.

The museum has received, through Dr. Riley, four specimens of this species from Alameda County, Cal., January, February and March, and with the red number 334. The specimens are all males, and confirm the opinion that we have to do with a good species and not a variety of the eastern form. The characters pointed out by me hold good, save that the orbicular may be as dark as the reniform. As the whole the specimens look more robust and are darker, more powdery.

Tæniocampa annulimacula n. sp.—Ground color pale fawn gray; a fine soft tint. Head and thorax immaculate. Primaries with basal and t. a. lines wanting. T. p. line a curved series of small venular dots. S. t. line rather irregular, concolorous or slightly paler, marked by a somewhat darker preceding shade (rarely the line will be entirely wanting). A narrow median shade line, bent on the reniform, also sometimes wanting. Orbicular concolorous, usually obsolete, sometimes outlined by ferruginous scales, moderate, round. Reniform large, upright, concolorous, more or less completely defined by a rusty red-brown annulus, always distinct at the outer side at least, and forming the only obvious bit of maculation on the entire wing. Secondaries very pale powdery fawn gray, with a faint, darker, discal lunule. Beneath pale, powdery fawn gray; primaries with a discal dot and a more or less evident, sometimes obsolete outer line. Secondaries with a distinct discal spot. Expands 1.68 inches; 39—42 mm.

Hab.—Texas, February 17th, 19th and 25th (Belfrage).

Five good specimens are in the National Museum collection (coll. C. V. R.). The antennæ of the male are lengthily bipectinated, the habitus and wing form as in my *pectinata*, to which this species is allied. The very pale fawn gray color, the lack of all prominent maculation, save the rusty ring to the reniform, and the plump, woolly thorax, will readily identify this form. It bears a casual resemblance in habitus to *Copipanolis*, and the assignment of the specimens to that series by the collector caused me to overlook them in my studies on the Museum material previously.

The male characters are distinctive. The harpes narrow toward tip, which is somewhat drawn out superiorly into an acute point. A stout, curved, corneous process from the middle of the outer third, a smaller process at its base inferiorly and a longer stouter curved process from behind the middle of upper margin.

Tæniocampa trifascia n. sp.—Head and collar pale, whitish ocherous, this pale tint extending along the costa of primaries. Color else a powdery reddish ocher. Primaries more or less dusted with black scales. Basal line pale, mostly lost in the pale costal region. T. a. line broad, pale regularly outcurved, even. T. p. line broad, pale, even, outcurved on costa, then inwardly very oblique and only very slightly incurved. S. t. line broad, pale, outwardly diffuse, inwardly defined by a powdering of dark or black scales. A series of small terminal lunules. Fringes with a series of black points. A broad, variably distinct shade of black scales through the outer part of median space. A series of black venular dots through s. t. space. Claviform wanting. Orbicular round or oval, small or moderate, pale ringed and dusky centered. Reniform upright oval, more or less evidently black powdered. Secondaries white. Beneath white, with a faint ocherous tinge. Expands 1.08—1.20 inches; 27—30 mm.

Hab.—Foot-hills, Col. (Bruce).

Three specimens (two males one female) are before me. The antennæ in the male are very feebly serrate, the wings are narrower and longer than usual, and the nearest ally is *palilis*.

I notice that, by some accident, group *palilis* is omitted in my Revision of *Tæniocampa*, though the characters of the group are given.

One pair is in the coll. U. S. Nat. Museum; others are in Mr. Bruce's hands.

Tæniocampa pectinata Smith.

When I described this species, from scant material, there was a rubbed and faded male specimen in the coll. U. S. Nat. Mus., which I identified with this form, and from which the figure of the sexual characters was made. Since that time new material has been received, and I have described the genus *Perigonica*, to which I find, on renewed study, the supposed *T. pectinata* belongs. A number of fresh, clean specimens of the latter enable me to give a correct figure of the sexual characters, and for comparison I add the figures of *Perigonica angulata* and *P. fulminans*, all from typical specimens. See Pl. II, figs. 7, 10 and 11.

PERIGRAPHA Led.

This genus, among others, was monographed, our American species alone considered, in the Proc. U. S. Nat. Museum xii, 490, and I there called attention to the fact that our species did not in all respects agree with the European types. I have since received a specimen which fills all the requirements of the generic description, and Mr. Edwards' genus *Stretchia*, which antedates Mr Grote's name

Acerra, must therefore be used for the species heretofore referred to *Perigrapha*.

The genus *Perigrapha* will be represented in our fauna by

P. prima n. sp.—Deep bluish ash-gray, with a fuscous powdering. Front of head and base of collar discolorous yellow fuscous; patagiæ obscurely black margined. Basal line obscurely marked, scarcely traceable. T. a. line geminate, fuscous, evenly oblique outwardly. T. p. line geminate fuscous, interrupted, quite faint, evenly bisinuate. A vague, narrow fuscous shade through the centre of the median space. Costal half of basal space paler ash-gray. Claviform wanting. Ordinary spots large, subequal, oblong, oblique, touching, but not quite confluent inferiorly, narrowly fuscous margined, filled with paler gray, reniform somewhat stained with reddish. Beyond the middle of the s. t. space the wing is much paler gray, contrasting against the bluish of the rest of the wing; the irregular faint s. t. line traceable by a powdering of black scales. A series of blackish terminal lunules. Secondaries even, smoky fuscous. Beneath, smoky brown, secondaries pale powdered, both wings with an outer line and discal spot. Expands 1.20 inches; 30 mm.

Hab.—Sierra Nevada, Cal.

A single female specimen from Mr. Hy. Edwards in which the antennæ are lengthily serrate or very shortly pectinated.

The large ordinary spots and discolorous pale terminal space, combined with the generic characters, will render this species easily recognizable.

Stretchia variabilis n. sp.—Ground color dark ash-gray with black powderings. Head and front of collar umber-brown, collar white tipped, with a crested black line. The small thoracic tuftings and the abdominal tufts blackish brown to black. Abdomen dark fuscous. Basal line geminate black, evident. T. a. line pale, geminate on costa, obliquely and regularly outcurved to vein 1, and again outcurved below that vein. T. p. line rather indefinite, inwardly defined by a variably distinct lunate black line, widely outcurved over cell, and as deeply incurved below, so that the median space on inner margin is only half the width through the cell. This median space may be concolorous, only slightly darker, bright umber-brown, or almost black. The claviform is wanting. Orbicular large, rather irregularly oval, oblique. Reniform large, kidney-shaped, both the spots narrowly black ringed, almost concolorous, suffused with reddish, or nearly white, contrasting. S. t. line powdery gray, irregular, vague, marked opposite the anal angle with a more evident blackish lunule, followed by ocherous or paler yellow scales. S. t. space slightly darker costally. A series of small terminal dots, beyond which the fringes are cut with pale gray. There is a short, curved basal black line which does not extend to the t. a. line, and the veins are all black marked. Secondaries whitish, quite heavily black powdered, with soiled veins, a blackish discal lunule, and a blackish marginal line. Beneath pale, with black powderings, the primaries darker, both wings with a dusky outer line and discal lunule; secondaries also with a marginal line. On the primaries the outer line is not complete and may be entirely wanting, and the discal spot varies in size and distinctness. Expands 1.52—1.60 inches; 38—40 mm.

Hab.—Colorado (Bruce).

Several specimens are before me from Mr. Neumoegen and Mr. Bruce, and no two of them are alike. One male bears a deceptive resemblance in maculation to *Valeria grotei*, the dark color and contrasting white ordinary spots causing the likeness, others have a very decided reddish suffusion through the median space and some are entirely concolorous, even, blackish gray.

The ordinary spots are sometimes well separated, usually quite close together, rarely confluent inferiorly. The vestiture is scaly, and in appearance the species is associated with my first group in which the ordinary spots are usually fused. It is readily distinguished from all. The male genitalia are unlike the others of the genus. The harpes are narrow, the tip somewhat produced superiorly. The clasper consists of a corneous hook with a basal short spur.

***Stretchia behrensiana* Grt.**

This species, unknown to me in 1889, I have identified in specimens sent me by Mr. Edwards for name. It agrees well with the description, but varies excessively in distinctness of maculation, in ground color and in the amount of black powdering. The sexual characters are unlike any figured in my Revision (Proc. U. S. Nat. Museum xii, pl. xxii, figs. 1-5), but resemble most nearly those of *normalis*, save that the clasper is double.

In the Verh. k. k. zool.-bot. Gesell. in Wien, 1872, p. 502, Zeller describes *Sedenia (cavifrons) biundulalis*, a Pyralid. He says of it: "*Frons conica, superne cornea, excavata*," using this character to ally it with *cervalis*. The specific diagnosis is short and characteristic: "*Alis albis, anterioribus sericeis, strigis duabus crassis, undulatis, nigris* ♀." The description is full and careful, and, in connection with the figure given on pl. iii, fig. 14, leaves no doubt that the species before me is really that intended by Zeller. The locality, Texas, is also identical. Mr. Grote has omitted the genus, and apparently the species as well, in his List of 1882. A few days ago Mr. Hulst handed me the insect, with the remark that Prof. Fernald said it was a noctuid. A glance at the habitus convinced me that this was so, and that I had a close relative to some forms which had been in my hands for name for some time. Zeller's description points so convincingly to a Pyralid that it could leave no feeling of doubt on the reader. He says, among other matters, that the maxillary palpi are small, brown, resting on the labial palpi. An examination of my specimen shows a curious error, induced probably by the con-

viction that the species must have maxillary palpi. As a matter of fact the supposed palpi are merely the projecting and somewhat thickened edges of a flat, plate-like clypeal process, arising below the frontal tubercle. The single ♀ possessed by Zeller must also have been rather imperfect, since he failed to note the fact that the fore-tibiæ were armed at tip with a long inner and shorter outer spine or claw, though the color and structure are otherwise accurately described.

Referred to the Noctuidæ the relation to *Antaplagia sexseriata* Grt. is at once obvious, and to this genus Zeller's species must be referred, as *A. biundulata* Zell. It differs from the described species in the presence of the clypeal plate below the tubercle, but this will scarcely warrant generic separation. From *A. sexseriata*, which it closely resembles in maculation, it differs in the somewhat heavier bands, and in the absence of the subterminal black dots.

THYREION n. gen.

Body plump, robust, thorax with thin hairy vestiture. Head retracted, front flat; palpi short and weak, scarcely exceeding the front; tongue moderate in length; antennæ of ♂ stout, rather short, with short, thick lateral teeth. Tibiæ spinose, clothed with rather long thin hair; anterior pair abbreviated, broad at tips, with a single long inner claw, and a series of two or more along the outer edge. Primaries proportionately short and small, the costa concave, apices somewhat drawn out, outer margin oblique, scarcely convex outwardly.

This genus is to replace *Aedophron* as used by Mr. Grote. I pointed out eight years ago that Mr. Grote's species *snowi* could not be referred to Lederer's genus, but as I had no specimens I made no change in the reference. Mr. Grote, in his List of 1890, has made no change in the generic location of the species, though he has based a number of new genera on characters pointed out for him by others. The occurrence of a new species, close to *snowi*, enables me to give the above description. The genus *Aedophron* retains as its single American representative, *pallens* Tepper, differing from the European representative as already pointed out by me.

Th. rosea sp. nov.—Head and thorax a rather sordid pale lemon-yellow; abdomen deep blackish gray. Primaries above, yellow to the s. t. space, thence rosy red to the outer margin, receiving an admixture of yellow outwardly; fringes pink; a ray of rosy red extends through the cell, joining the marginal

shade, and a similar ray from the same point extends through the submedian interspace, also joining the marginal band. Secondaries above, a deep blackish gray, with pale rosy fringes. Beneath, primaries deep blackish gray; secondaries paler, flushed with pink along the costa, and a very decided rosy shade extending from the apex along the outer margin nearly to the anal angle. Expands 1 inch; 25 mm.

Hab.—Colorado (Bruce).

The single male from which this description is made is from Mr. Neumoegen's collection, but I think I have seen others, also of Mr. Bruce's collecting, from the same locality. The species should not be difficult to identify.

XANTHODES Gn.

A somewhat peculiar genus, resembling in its form and habitus *Chariclea* and *Aedophron*, but differing in venation, form of palpi, etc. Of medium size, slender, the entire insect somewhat depressed; front with a smooth, horizontally projecting conic tuft; tongue spiral. Eyes large and naked, antennæ thin, bristle-form, in the male with short fine ciliæ. Palpi slender, apparently, from the smooth close vestiture, of equal thickness, converging, somewhat upcurved, then projecting in the form of a snout beyond the palpi. Collar convex close to the dorsum and through the fine hairy vestiture scarcely to be distinguished from it. Abdomen smooth, with thin vestiture. Legs strong, unarmed and closely scaled, only the outside of the tibiæ with dense, woolly, thick hair. Primaries without accessory cell, 6, 7-8 and 9-10 out of the tip of the median cell; broad, with feebly arcuate outer margin. Secondaries with vein 5 weak.

The above is a close translation of Lederer's description of the genus which has been introduced into our fauna by Mr. Grote for his species *Schinia buxea*; the genus *Trileuca* being proposed for *Schinia rectifascia* and *S. gulnare* Strk. In the "Revised Check List" *S. gulnare* is referred to *Lygranthæcia*, to which it does not belong, while *buxea* and *rectifascia* go into *Trileuca* and are referred to the Acontiinæ. *S. gulnare* Mr. Grote did not know, and was, of course, justified in leaving it where its author put it. *Trileuca* may be a good genus, but it does not belong to the Acontiinæ. Its relations are with *Calymnia* and *Cosmia*, or perhaps very near to *Atethmia*. *Xanthodes*, as based on the European type, is unlike either of the species associated with it by Mr. Grote, and I do not know of any American species that could be properly referred to it.

Mr. Grote makes a very touching plea for his genus *Lygranthæcia* in the Proc. Am. Philos. Soc. 1883, 173, but does not show anywhere

that it has any right at all under the laws of priority. Mr. Grote has always been a strict Hübnerian, but now, when one of his genera is to be superseded, it becomes "unjust and against the usual comity and practice!"

But even suppose Hübner's genus should not be adopted, how can we get over Guenée's genus *Tamila* proposed in 1852 with *nundina* as the type? One of the very species which Mr. Grote now includes under *Lygranthæcia*! and why, if "comity" is to be shown, should Boisduval's *Anthæcia* be sacrificed, the very first species being Mr. Grote's present type of *Lygranthæcia*. To be sure the designated types of *Anthæcia* and *Melicleptria* are the same, but "comity" would seem to require that *Anthæcia* should be retained for some species if possible. And why should Hübner be enforced against Boisduval and not against Grote?

For the present I cannot see my way to the use of *Lygranthæcia* in preference to *Schinia* or *Tamila*.

Before describing the species of *Schinia* before me, an ally of *Schinia* (*Trileuca*) *buxea* merits attention.

Trileuca dentalis n. sp. — Head, thorax and primaries a bright glistening lemon-yellow; transverse lines of primaries brown. Basal half line faint. T. a. line well removed from base, with a long outward angle on median vein. T. p. line acutely angulate outwardly, the spur reaching the outer margin below the apex. S. t. line also with an outward angle, reaching the outer margin at the same point with the t. p. line. A small, geminate black dot on costa, just before the apex. Between the point at which the angulation of the outer lines touches the margin and the anal angle, a metallic coppery brown shade fills the space beyond the s. t. line. Secondaries pale yellow, ochereous, more whitish basally. Beneath yellow, powdery, immaculate, the secondaries whitish towards inner margin. Expands 1.40 inches; 35 mm.

Hab.—Southern Texas

A single specimen from Mr. Neumoegen's collection is before me. It has much the same color as *buxea*, but is larger, the course of the lines is different, and there is the coppery brown outer shade, which is distinctive. In maculation and color this is remarkably close to Guenée's *Xanthodes transversa* from India, so close, indeed, that had the species been described from America I had considered the differences within the range of specific variation.

Lygranthæcia parmeliana Hy. Edw.

To the kindness of Mr. Schoenborn I owe a sight of the type. It has the wing form, and exactly the maculation of *nundina*, but the ground is ocher yellowish, the lines white, and the dark markings

are umber-brown, with an olivaceous sheen. The secondaries are yellowish at base, with a broad blackish outer margin. The tibial armature consists of two long inner and three shorter outer claws or spines, referring to *constricta*, *brevis*, *errans* and the small species near the foot of my series, with which this form has nothing in common. It is undoubtedly a good and quite remarkable species.

***Lygranthœcia roseitincta* Harvey.**

1875 Bull. Buff. Soc. N. Sci. ii, 278.

Melicleptria exaltata Hy. Edw.

1884 Papilio iv, 124.

This species is now represented in the Museum collection by several specimens. It was not known to me in 1883, when I published my revision of the *Heliothini*, but was found in the Belfrage material which came to the Museum. Mr. Edwards kindly gave me a specimen of his species, now also in the Museum, and this enabled me to make the above synonymical reference.

The species has the structural features of *Schinia lynx* and its type of maculation, replacing the yellow by bright red throughout.

Mr. Edwards' species is not referred to in Mr. Grote's list of 1890, nor, indeed, any of the following species: *Anthœcia petulans* Edw., *Tamila arefacta* Edw., *Acopa pacifica* Edw., *Melicleptria septentrionalis* Edw., *Heliothis suavis* Edw.,—all described in 1884!

Mr. Grote seems to think, as he said of Boisduval about twenty years ago, that no work has been done since his last descriptive papers.

***Schinia sexplagiata* n. sp.**—Head and thorax dark olivaceous greenish gray. Primaries pale, powdery greenish gray, basal space and costal and marginal patches in s. t. space dark, olivaceous, of the same tint as thorax. Basal line marked on costa only. T. a. line pale, well marked, forming a very even and regular outcurve. T. p. line even, pale, narrower than t. a. line, evenly outcurved over the cell, and as evenly though less prominently incurved below. S. t. line pale, not so well marked as the median lines, a little irregular and holding a middle between t. p. line and outer margin in course. A pale line at base of fringes, which are concolorous, interlined with pale. The s. t. space is slightly darker than ground color, except on costa and internal margin, where it is of the same color as the basal space. A vague, dusky, median shade over the reniform, bringing this spot into view as an upright dusky patch not definitely margined. There is a vague suggestion of an orbicular. Secondaries white, with a blackish discal lunule and outer margin, the latter with a white central shade, more prominent toward anal angle; fringes white. Beneath whitish, tinged with faint olivaceous, both wings with a narrow outer line; primaries with black, contrasting reniform and orbicular. Expands 1.04 inches; 26 mm.

Hab.—Foot-hills near Denver, Col. (Bruce).

The front is globose, bulging; fore tibiae with a long inner and two shorter outer spinules. This species is allied to *biundulota* in general appearance, but differs widely in details. The white secondaries, the contrasting shades of primaries, and conspicuous ordinary spots of the under side, are all good distinctive features. A single good male is in the collection U. S. Nat. Museum, from Mr. Bruce, and this is the type.

Schinia brucei Smith.—Ground color of head, thorax and primaries, a pale luteous, varying in intensity, the maculation varying from ocherous to rusty yellow. Basal line marked on costa, the basal space deepening in color outwardly to the t. a. line, where it is of the richest tint found on the wing. T. a. line pale, whitish inwardly sharply defined by black scales, outwardly diffuse, shading into the ground color of the median space. T. p. line pale, whitish, regularly bisinuate, crenulate and very narrow, sometimes even interrupted opposite the cell; outwardly marked with black scales. S. t. space ocher or rusty yellow brown, sometimes even of an olivaceous tinge. S. t. line pale, broad, diffuse, either evenly parallel to outer margin, or indented opposite the cell, sometimes almost cutting the s. t. space. Terminal space slightly darker than ground color. A series of small, terminal, blackish dots. Fringes concolorous, with dusky terminal dots. A deeper shade of ground color through outer part of median space, narrowed to a line at the hind margin. Reniform large, dusky, with blackish lateral margins, not completely defined; no orbicular. Secondaries whitish, with dusky outer margin, interrupted by an irregular whitish shade behind middle, a moderate discal spot and white fringes. Beneath whitish, with maculation of upper side incompletely reproduced, powdery; primaries with orbicular and reniform usually very distinct. Expands 1.00–1.20 inches; 25–30 mm.

Hab.—Colorado (Bruce).

I have seen quite a number of this species, and four good specimens are in the Museum collection. It is larger than *crenilinea*, though similarly marked, but the armature of the tibiae allies it to *separata*. From all the forms of that species the character of the median lines will serve to separate it, the color sometimes being very similar.

The species is named after its collector who has found more new species than any other recent field worker in Lepidoptera, and who is as liberal as he is skillful in preparing his specimens.

Schinia diffusa n. sp.—Head, thorax and primaries a vague reddish gray, of a faded, washed-out hue, the maculation on primaries scarcely traceable. Basal and s. t. spaces a shade deeper in color, and thus rendered visible. T. a. line narrow, thread-like, paler, outwardly angulated in the submedian interspace. T. p. line narrow, crenulate, evenly curved to the submedian interspace and there somewhat abruptly incurved. S. t. line faintly marked only at costa, else not traceable. Reniform an indefinite, vague, dusky blotch. Secondaries whitish,

with a faint reddish or yellowish suffusion. Beneath, much as the secondaries above, reddish powdered toward the outer margins. Expands .96—1.08 inches; 24—27 mm.

Hab.—Colorado (Bruce).

Three specimens, male and female, from the collection U. S. Nat. Museum, others in Mr. Neumoegen's collection. The species is allied to *saturata* in tibial armature, and somewhat also in habitus, but the course of the t. a. line is entirely different, and the faded, washed-out appearance is peculiar to this species.

Schinia ochreifascia n. sp.—Head and thorax overlaid by a thick layer of ocherous scales on a white base, the white appearing at tips of collar, patagiæ and thoracic tuftings generally. Primaries white, banded with brownish ocher or tan color. A well defined, moderately broad, even band at basal fourth, the outer margin at about the place usually occupied by the t. a. line. A broader, less definite median fascia, the color less intense, the band broadest at its middle, narrower at inner than at costal margin. A moderately broad fascia of even width, its course slightly sinuate, occupies what is ordinarily the s. t. space. A half band starts from costa at apex and tapers out at about the middle of outer margin. A darker line at base of the white fringes. Claviform and orbicular wanting. Reniform consists of a brown lunule at end of cell, followed by a small spot of the same color just beyond. Secondaries white, shading to ocherous outwardly. Beneath yellowish white, primaries with a submarginal deeper fascia, leaving marginal space somewhat contrasting white. Expands .92 inch.; 23 mm.

Hab.—"July, Kern County, Cal.;" "August, Alameda County, Cal. In flowers of *Proximun californicum*."

Two specimens in the National Museum collection (through C. V. Riley), neither of them in good condition, but together making a very perfect whole. The species has the ground color of *cumatilis*, and the ocherous fasciæ of *chrysellus*, but is utterly unlike either in type of maculation. The front is protuberant; bulging, but not rough, and the armature of the fore tibiæ is comparatively weak and consists of a long inner spine, and a series of shorter outer spines, much as in *cumatilis*, but less claw like.

One specimen has a red ink number 181, which indicates a biological note on the species, in Dr. Riley's possession.

Schinia unimacula n. sp.—Head, thorax and primaries white, markings of the latter of a faint olivaceous clay yellow. Primaries with a broad, curved, sub-basal band, the outer margin limiting the t. a. line, which is followed by a few scales of the same color as the band, indicating its outer margin. Outer portion of median space and all of s. t. space of the same faint olivaceous tint, through which the white t. p. line is evident, starting in a broad costal patch, narrowing to a mere line in its outward curve over the cell and becoming more

obvious on the incurve and at the inner margin. S. t. line marked only by the difference in shade between terminal and s. t. space. This difference is very strongly marked at the costa, then the s. t. space is almost divided by the white, and thence the dark color again widens with an outward curve the division not sharply marked. A row of black terminal dots. Base of fringes olivaceous. Reniform upright, dark, constricted inferiorly, black marked, and more dilated than superiorly; no trace of orbicular. Secondaries white, with a dusky discal spot and indefinite outer border, in which is an ovate white spot. Beneath white, with the maculation of the upper side faintly reproduced. Expands 1.04 inches; 26 mm.

Hab.—Colorado (Bruce).

This is a close ally of *S. vanella*, which it resembles completely in habitus and structure. It differs obviously in the entire lack of the orbicular and claviform in the much smaller reniform and in a general softness of tint and maculation not noted in its eastern congener. The type is from Mr. Neumoegen's collection, and there are three handsome examples in the collection U. S. Nat. Museum, all of Mr. Bruce's collecting.

Schinia bicuspidata n. sp.—Head, thorax and primaries luteous. Primaries with maculation darker, more olivaceous, and with an admixture of blackish scales. The transverse lines are all of the palest shade of the ground color, and defined by the difference in shade between the adjoining spaces. T. a. line with a long outward cusp on the median vein, and a deep incurve below the internal vein. Basal space dark, with a pale cusp on the costa, and with a strong admixture of black scales along inner margin, the internal vein pale. S. t. line regularly bisinuate, even, oblique, well defined throughout. S. t. space quite strongly speckled with black scales, especially along the outer margin defining the s. t. line. This latter is deeply and suddenly incurved opposite the cell, then approaches quite close to the outer margin, again indented nearly opposite the anal angle. A row of small blackish terminal spots, from which, proceed blackish shades cutting the fringes. Orbicular wanting. Reniform moderate, blackish, quite indefinite; median space crossed by a diffuse dusky shade, faint through the centre, but spreading out and occupying nearly the entire width of the median space inferiorly. Secondaries black, with a broad yellow median band, divided by a large black discal spot; fringes yellow. Beneath, primaries pale yellow, with a broad basal shade, a large discal spot, and a broad subterminal band black; secondaries white, with an incomplete outer band and discal lunule black. Expands .96 inch.; 24 mm.

Hab.—Southern Texas.

The anterior tibia has two stout inner and five stout outer claws, and it is therefore related to *packardii*, *mortua* and *nobilis*. From all of these it differs in the course of the transverse lines, and the more decided contrasts in maculation. A single specimen from Mr. Neumoegen's collection is before me.

Schinia conceinna n. sp.—Head, thorax and ground color of primaries a rather deep luteous, with an olivaceous tint. Primaries maculate with a rather deep, almost chocolate-brown. Basal space brown, deepest at the t. a. line, and merging into the ground color at the extreme base. T. a. line white, prominent, outwardly oblique in two curves to median vein, then inwardly oblique in two further curves to hind margin. T. p. line white, rather strongly and quite evenly bisinuate, well marked, except over the cell, where it is interrupted and punctiform; outwardly it is marked with black scales. S. t. space darkest at t. p. line, lightening somewhat to s. t. line, which is very irregular and marked only by the contrast between the dark s. t. space and the terminal space, which is of the ground color. Fringes of ground color with a series of darker terminal dots. Orbicular wanting; reniform large, dark, somewhat indefinite, obscured by a dusky shade, which crosses the median space and merges into the ground color at either margin. Secondaries obscurely tawny at base, becoming black at outer margin. Fringes pale luteous, almost dirty white. Beneath tawny, primaries with disc black, sending up an ante-apical spot of same color; a black discal spot. Secondaries with a large discal spot and a deeper, brownish black outer margin. Expands .96 inch.; 24 mm.

Hab.—Southern Texas.

This species has two inner and three outer claws to the fore-tibia and is most nearly related to *brevis* Grt. The contrasting white lines, the olivaceous luteous ground color and the course of the lines are different; *brevis* seems not to have the broad median shade. A single specimen from Mr. Neumoegen.

Schinia digitalis n. sp.—Head, thorax and primaries a powdery luteous gray. Primaries with basal and s. t. space darker, with an admixture of blackish scales; median lines narrow, pale. T. a. line evenly outcurved, the curve greatest in the cell. T. p. line very narrow, and but very little sinuate, almost rigidly oblique. S. t. line marked by the difference in shade between s. t. and terminal space, strictly parallel with the outer margin. Fringes dusky. Secondaries a pale yellowish gray with a more blackish outer margin and very faint discal blotch. Beneath, primaries dirty gray, with a faint reproduction of the outer lines of upper side, and a dusky discal spot; secondaries much as above. Expands 1.20 inch.; 30 mm.

Hab.—Dallas, Texas.

This species has heavy inner and four heavy outer claws to the anterior tibia, and is therefore related to *thoreau*i and *rivulosa*, from which it differs radically in the coloration. It is the only species with the heavy armature which has this luteous gray, almost greenish tinge. It bears a deceptive resemblance to *gracilent*a, and the markings, indeed, are almost exactly like it.

A single specimen only at hand, but I feel quite certain that it is in other collections as a faded *gracilent*a.

Schinia biundulata n. sp.—Head white, with a faint olivaceous tinge, much more marked on the thorax; abdomen fuscous. Primaries a faintly green luteous or olivaceous, the terminal space slightly paler, else almost uniform in tint. The median lines are very distinct, broad and white; the t. a. outwardly curved and inwardly marked by a few black scales; t. p. S-shaped, or strongly bisinuate, outwardly relieved by a few black scales. Fringes whitish, uniform in color. Secondaries faintly olivaceous, pale, with an indefinite dark outer band, and a dusky discal spot. Beneath, primaries silver-gray, with the costal and outer margin narrowly yellowish. Secondaries white, with a faint discal spot. Expands .92 inch.; 23 mm.

Hab.—Colorado (Bruce).

This handsome and strongly marked species is allied in structural characters to *trifascia* or *cumatilis*, and is very distinct from anything I have seen.

The single specimen before me is from Mr. Neumoegen's collection, and I do not remember having had others.

Schinia simplex n. sp.—Head, thorax and primaries of a glistening, pale green color; immaculate. Secondaries a very faint ocher yellow, with an indefinite dusky discal spot, and a dusky outer margin, not extending more than two-thirds from apex to anal angle. Beneath, a glistening, pale yellowish white, with an indefinite blackish discal spot on all wings. Expands 1.20—1.28 inch.; 30—32 mm.

Hab.—Colorado.

This species has a single long inner and three feebler outer, claw-like spines to the fore tibia, and it belongs to the series with *trifascia* and *gracilentia*, from all of which it differs in the immaculate primaries. The specimens were collected by Mr. Bruce, and are distributed in a number of collections, including that of the U. S. Nat. Mus. The specimen before me is marked "Denver, Light, July 21, 1887."

In the two specimens in the Museum collection, one, marked "Foot-hills, Colo." has entirely immaculate secondaries; the other specimen is much deeper in color throughout, and the marginal black band is much more distinct, and is complete, extending also along the costa.

Schinia crenilinea n. sp.—Head and thorax yellowish white, the thorax with an admixture of ocherous scales. Primaries whitish, with a strong admixture of ocherous, the maculation with a brown admixture to the ocher. A broad sub-basal, dusky band, outwardly limited by the white t. a. line, which is outwardly curved and irregularly denticulate on the veins, the widest outcurve in the submedian interspace. Inwardly this line is marked by a few black scales, outwardly it is indefinite. T. p. line white, outwardly defined by black scales, crenate, with distinct outward spurs on the veins, its general course feebly bisinuate. S. t. line marked by the difference between the brownish s. t. space

and the even faintly ochereous white of the terminal space. S. t. space strongly constricted opposite cell, less so in the s. m. interspace. A row of very faint terminal dots. An upright dusky median shade, fading gradually to the ground color in each direction. Reniform an indefinite, upright, dusky line. Secondaries pale with a faint reddish tint deepening to a coppery red outer border. Beneath, quite uniform coppery red, the secondaries paler basally, primaries immaculate. Expands .92 inch.; 23 mm.

Hab.—Southern Texas.

This, in its structural characters, resembles *spinosa*, and in appearance is allied to *separata* and *saturata*, the latter of which it resembles in the crenulate median lines and general tendency of maculation. I presume this would be a *Eupanychis* according to Mr. Grote, if its relation to *spinosa* be a generic character.

Heliophana obliquata n. sp.—Head and thorax a rather deep clay-yellow, with an olivaceous tinge, almost tawny; abdomen blackish. Primaries above an olivaceous, dark luteous, marked with a somewhat rusty red-brown. There is no distinct t. a. line. An oblique brown shade band extends from the inner margin near base to the end of the median cell, joining the upright somewhat indefinite reniform. From this band a spur of the same color is sent to the base along the internal vein, and another along the median vein. A narrow streak runs also through the cell to the reniform. T. p. line concolorous, even, entirely parallel with the outer margin, marked by a very narrow, indefinite, preceding brown line, and followed and defined by the brown s. t. space. S. t. space uniformly brown, marking the s. t. line by the contrast between it and the terminal space. This line of contrast is irregularly bisinuate. A brown terminal line at the base of the concolorous fringes. Secondaries black, mingled with the tawny yellow basally, the fringes tawny. Beneath, primaries black, costal and outer margin tawny, the former allowing part of a black discal mark to be visible. Secondaries with costal third and centre tawny, else black. A large black discal spot. Expands .75 inch.; 19 mm.

Hab.—Texas (Neumoegen).

I have had several examples of this little species for determination, some of them I think from Colorado, but have not named it anywhere. The characters agree well with those of the genus as given by me (Trans. Am. Ent. Soc. x, 240). It is not impossible that this is an extreme variety of Mr. Grote's species, but both upper and under side differ from the description and from the specimens I have seen. In *mitis* the ground color is dark, while in the present species it is pale; but this reversal does not necessarily indicate absolute difference.

Heliophana amaryllis n. sp.—Head, thorax and abdomen black, with fine, thin, loose, divergent, pale yellowish vestiture. Primaries a dirty grayish brown, median space a dirty yellowish white. Basal line distinct, whitish, margined by black. T. a. line whitish, preceded by a black, and followed by a dark

gray shade; in course it is obtusely angulate on the median vein, and in the slight convexity in the cell, the round orbicular rests on the line. T. p. line whitish, even, widely outcurved over the cell and incurved beneath; defined outwardly by the dark ground color, inwardly by a narrow gray-brown line. The reniform is large, black, filling the entire width of the cell and resting on the incurve of the t. p. line. A narrow dusky shade from the reniform to hind margin close to t. p. line. Beyond the t. p. line the wing is uniform in color, somewhat white marked on the veins and crossed by the narrow whitish s. t. line, which is twice outcurved and with three acute inward teeth. Secondaries black, with a broad whitish band, almost divided by the large black discal spot. Beneath, primaries white, with a broad, irregular, black outer border, a broad black basal dash, and a large black reniform, orbicular and subapical spot. Secondaries much as above, but median white band broader. Expands .80 inches; 20 mm.

Hab.—Colton, Cal.

I have seen but a single specimen of this curious insect, received from Mr. W. N. Tallant, Columbus, Ohio, marked collected by G. R. Pilate. It has the habitus of *Melicleptria*, but the structure of the genus to which I have referred it.

STYLOPODA n. gen.

Eyes narrowed, ovate, naked. Head small, not retracted, front somewhat protuberant, conical, but not roughened. Tongue strong, moderate in length. Palpi reaching to middle of front, stout, the terminal joint small, the parts so held as to make the front seem pointed. Antennæ moderate in length, in the ♂ finely ciliated. Thorax plump, robust, vestiture scaly, smooth, forming an indefinite posterior tuft. Legs short and stout, tibiæ not spinose, the spurs long, clothed with long, divergent vestiture, anterior short, broad, flattened and corneous at tip, with a long inner and short outer claw-like spur or process. Abdomen short, conic, untufted. Primaries short, broad, costa somewhat depressed, making the apices prominent.

This genus resembles *Pseudotamila* in structure, save that the tibiæ are not spinose, and the primaries have the costa depressed. Its characters are also like *Pseudacontia*, save that the eyes are narrow, ovate. The genus is recognizable, and unlike any other of our *Heliothid* forms known to me.

Stylopoda cephalica n. sp.—Head, thorax and abdomen deep purplish black. Primaries purplish black to t. p. line, then an irregular white shade fading into the black ground color beyond. The maculation on the purplish ground is picked out by deep black scales. Basal line single, complete. T. a. line single, fine, upright or slightly oblique, very regularly tridentate. T. p. line single, outwardly oblique from costa over reniform, then very deeply indrawn,

narrowing the median space by fully one-half below vein 2. This line is emphasized by the pure white following shade, which is broadest in the submedian interspace, white scales—seeming bluish on the back ground—extending through the subterminal space and on costa, vaguely indicating the s. t. line. An interrupted black terminal line. Claviform apparently wanting. Orbicular moderate, concolorous, round, black-ringed. Reniform incomplete, apparently only the inner margin defined, the outer merged in the white shade. Secondaries black, with white fringes. Beneath black, primaries with an interrupted white band. Expands .68—.72 inches; 17—13 mm.

Hab.—California.

Two specimens (♀) are in the National Museum, one from my old collection, the other “through C. V. Riley, 1888,” collected by Coquillett. The latter is perfect so far as maculation goes, but the legs are deficient. The former is somewhat rubbed, and has no legs at all.

This is a strongly marked form which there should not be any difficulty in recognizing.

There is a single male specimen from my collection in the Museum, also from California, which is congeneric, but which is almost too poor to serve as a type. The primaries above have been rubbed almost bare of scales, and no maculation is traceable. The secondaries are black. Beneath, the primaries are carmine-red, the secondaries black. If this is in any collection, I should like to get good specimens.

***Pseudacontia crustaria* Morr.**

A specimen of what I take to be a form of this species is in the National Museum collection, from Mr. Bruce. It is like the type in pattern of maculation, but the black is replaced by an ochereous brown on primaries, and the median white band of secondaries broadens and becoming inwardly diffuse, lightens the base. The type is from Nebraska, and I have seen no other specimens. It may be we have to do here with another species, but without more material I prefer to leave it as a geographical race or form.

***Metoponia macula* sp. nov.**—Head, thorax and primaries orange-yellow. Head and collar with an admixture of brown. Primaries with a purplish blotch filling the base of discal cell, and narrowly connected along the median vein with a darker, irregular blotch, whose outer margin is about where the t. p. line should be were it present; a small, irregular spot, marks the location of the accessory cell. The inception of the s. t. line is marked by a small, somewhat ferruginous preceding patch, and below that by a series of four or five irregularly separated venular dots. Two dots below the basal purple blotch mark the t. a. line. Fringes cut with purplish. Ordinary spots entirely obsolete.

Secondaries uniform blackish with yellow fringes. Beneath, primaries blackish, costa and fringes yellow: secondaries yellowish, with an outer darker line. Expands 1 inch; 25 mm.

Hab.—Las Vegas, N. Mex.

Obviously distinct from the described species by the black secondaries with contrasting yellow fringes. The clypeal structure is a cup-shaped depression, from which rises a cylindrical projection also cupped at tip. Specimens taken by Mr. Meeske are in the collections of Neumoegen and Hulst.

AGROTIPHILA Grt.

This genus was proposed by Mr. Grote (Ann. Lyc. 1875, xi, 107) for Mr. Morrison's *Agrotis montana*, and the genus is, in my opinion, a good one, differing from *Agrotis* in the narrow, reniform eyes, the retracted head and *anartiform* habitus. To this must come *Pachnobia alaskæ* Grt., of which there is a specimen in the U. S. Museum, easily recognizable by the discoloured claviform.

Among the species never recognized by Mr. Grote is Moeschler's *Agrotis staudingeri* (Wien. Ent. Monatsch. vi, 132, pl. 1, fig. 4, May, 1862). To the courtesy of Mr. Moeschler I owed a chance to examine his type, and found it to be in all respects like Morrison's species. The figure is accurate, and there is no doubt at all that *staudingeri* must replace *montana* in the lists.

Morrison described his species from Colorado, July 22d to August 12th, 12,000 feet. Afterward the species was received from Mt. Washington, and Labrador is now added to the distribution. In the collections made by Mr. Bruce there is a species which I at first considered the same as that described by Morrison, but which offers a number of constant points of difference, which I think justify a new species fully congeneric with *staudingeri*.

Agrotiphila colorado n. sp.—Ground color of head, thorax and primaries an olivaceous luteous, or ochreous brown, the variation being quite considerable. Front with a strong admixture of white hair, forming a white margin to the eyes. Collar black centred with a whitish basal and terminal margin. Patagiae white margined. Abdomen blackish, with fine white or pale yellow hair. Basal line black, single, outwardly margined with white. A curved black streak crossing the basal space on the internal vein, margined above with white, and this with the white inner margin to the t. a. line makes a quadrate space at base, the angles all extended. T. a. line *incurved*, the lower curve long and reaching nearly to the middle of the inner margin. T. p. line with an even outcurve, nearly parallel with outer margin; inner line composed of connected, black lunules, outer line a broad whitish shade. S. t. line white, diffuse, pre-

ceded by a series of more or less confluent sagittate black spots, broadly interrupted subapically. A dusky line at base of fringes. All the veins white marked; a mere trace of claviform. Orbicular large, irregularly oval, black margined, inwardly white ringed, centre pale. Reniform large, kidney-shaped, narrowly black ringed, inwardly white margined, centre pale. The space between these ordinary spots is blackish, and there is a black spur from reniform to t. p. line. Secondaries blackish fuscous to blackish, with white fringes. Beneath whitish, both wings with narrow dusky margins and linear discal spots. Breast blackish, legs with fine, thin, white hair. Antennæ of male with whitish ciliæ. Expands 1.16—1.24 inches; 29—31 mm.

Hab.—Colorado, Bruce.

Both sexes of this species are before me from Mr. Bruce's collections. There is considerable difference in the general appearance of the sexes, though not in details of maculation. The male is the smaller, and is sordid, more pale and less definitely marked; in the female the ground color is deeper, richer, and the white contrasts very much more distinctly.

Compared with *staudingeri*, this species is larger, the claviform is barely marked, and the orbicular is different in shape, large and irregularly oval in this species, small and round in *staudingeri*. The species is in Mr. Neumoegen's collection, and I have seen others from Mr. Bruce. A good pair in the National Museum collection among others.

Agrotiphila rigida n. sp.—Head, thorax and primaries dull fuscous brown, with a yellowish admixture in the basal and s. t. spaces. Front with pale scales intermixed. Basal line evident, black, followed by a white shade. T. a. line rigid, slightly oblique outwardly, white inwardly, margined outwardly by black, which is a little extended on the veins. T. p. line outcurved over cell, thence nearly parallel with outer margin; inner line black, a little outwardly denticulate on the veins, followed by a rather diffuse whitish shade. The veins are pale marked through the s. t. space, and aid in defining the series of dusky, sagittate spots before the s. t. line. This latter is whitish yellow, rather broad, distinct, very even, a little outwardly bent only on veins 3 and 4, a blackish, interrupted terminal line. Claviform rather obscure, incompletely outlined, concolorous, followed by a distinct yellowish shade, which extends to the t. p. line. Orbicular small, oval, slightly oblique, black margined, pale ringed, and with concolorous centre. Reniform moderate, kidney-shaped, pale ringed, with narrow black margin and concolorous centre. Secondaries smoky fuscous, somewhat paler basally, with a dusky discal lunule. Beneath whitish, powdery, with a common, broad, blackish, extra median band; a discal spot on all wings; primaries with a faint, dusky, submarginal band and secondaries, with a dusky outer margin. Expands 1 inch; 25 mm.

Hab.—Colorado (Bruce).

A single specimen of this species, from Mr. Neumoegen's collection, is before me, and is in good condition.

This is one of the most interesting species I have studied, and will not remain in the genus in which I have placed it despite its strong habital resemblance to both *staudingeri* and *colorado*. The eyes, while narrowed, are scarcely as constricted as in the type of the genus, the fore tibiæ are somewhat flattened and very heavily armed, with longer spines at tip, and, finally, the front shows quite a long, conic, corneous projection, which is evident in neither of the other species. It really agrees better with my genus *Chorizagrotis*, but the form is not depressed, the eyes are narrowed, and the frontal protuberance is quite different. It has little or no habital resemblance with *Chorizagrotis*, and I think it best referred for the present to the genus which in appearance it most resembles.

EXPLANATION OF PLATE II.

- 1.—Harpe and clasper of *Pachnobia cinerascens*.
 - 2.— “ “ “ *Pachnobia elevata*.
 - 3.— “ “ “ *Anorthodes prima*.
 - 4.— “ “ “ *Trichoclea antica*.
 - 5.— “ “ “ *Trichoclea postica*.
 - 6.— “ “ “ *Tæniocampa annulimacula*.
 - 7.— “ “ “ *Tæniocampa pectinata*.
 - 8.— “ “ “ *Stretchia variabilis*.
 - 9.— “ “ “ *Stretchia behrensiana*.
 - 10.— “ “ “ *Perigonica fulminans*.
 - 11.— “ “ “ *Perigonica angulata*.
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